

## **REMARKS**

Claims 1-3, 5-16, and 18-22 are pending in this application. By this Response, claims 4 and 17 are canceled, claims 1-3, 5-16, 18, and 19 are amended, and claims 21-22 are added. Independent claims 1 and 14 are amended to recite that the document is a markup language document having current content generated using at least one markup language and that the grammar is a markup language grammar comprising syntax rules of the at least one markup language used to generate the current content of the markup language document. Independent claim 13 is amended to recite that the markup language grammar comprises XML syntax rules inferred from the current content of the XML document. Claim 2 is amended to recite that the markup language grammar comprises at least one of definition rules and declaration rules. Support for these amendments may be found at least in paragraphs [0015]-[0016] of the present specification. Claims 8 and 16 are amended to recite that assistance is provided to the user based on a real markup language grammar file where possible and based on inferred markup language grammar where not possible. Support for this amendment may be found at least in paragraph [0050] of the present specification. Claim 3 is amended to incorporate the subject matter of canceled claim 4. Claims 3, 5-7, 9-12, 15-16, and 18 are amended to be consistent with the amendments to the claims from which they depend and to correct dependencies where appropriate. Claim 19 is amended to positively recite the computing device as having a processor and a memory and that the processor executes instructions from the memory to perform operations corresponding to the operations set forth in method claim 1. No new matter has been added by any of the above amendments. Reconsideration of the claims is respectfully requested in view of the following remarks.

### **I. Telephone Interview**

Applicant thanks Examiner Chavis for the courtesies extended to Applicant's representative during the December 6, 2007 telephone interview. During the telephone interview, the above amendments and the distinctions of the claims over the cited art were discussed. Examiner Chavis agreed that the above amendments to the independent

claims define over the cited reference. The substance of the telephone interview is summarized in the following remarks.

## **II. Rejection under 35 U.S.C. § 102(b)**

The Office Action rejects claims 1-3, 7-8, 12-16, and 19-20 under 35 U.S.C. § 102(b) as being allegedly anticipated by Carbonell et al. (U.S. Patent No. 6,163,785). This rejection is respectfully traversed.

Claim 1, which is representative of rejected independent claim 14 with regard to similarly recited subject matter, reads as follows:

1. A method of assisting a user who is editing a markup language document on a computer, comprising:  
presenting to said user said markup language document on a display of said computer for editing, wherein the markup language document is a document comprising current content generated using at least one markup language; and  
providing grammatical assistance to said user based on a markup language grammar inferred from current content of said markup language document, wherein the markup language grammar comprises syntax rules of the at least one markup language used to generate the current content of the markup language document.  
(emphasis added)

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994). Anticipation focuses on whether a claim reads on the product or process a prior art reference discloses, not on what the reference broadly teaches. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 U.S.P.Q. 781 (Fed. Cir. 1983). Applicant respectfully submits that Carbonell does not identically show every element of the claimed invention arranged as they are in the claims. Specifically, Carbonell does not teach the

features of claim 1 emphasized above, or the similar features found in the other rejected independent claims.

Carbonell is directed to a system for translating a source natural language (e.g., English) of a document into one or more foreign languages (e.g., Spanish, French, German, Japanese, etc.). With the system of Carbonell, a user interface (see column 9, lines 18-29) is provided for editing a document using a text editor (TE) which includes a language editor (LE). The LE includes a vocabulary checker and a grammar checker (column 19, lines 21-44). Moreover, Carbonell teaches to perform various grammar and vocabulary checks using a Constrained Source Language (CSL) which is a subset of a source language whose grammar and vocabulary cover the domain of the author's documentation which is to be translated (see column 5, lines 4-9).

While Carbonell teaches that the CSL includes a grammar, the grammar in the CSL is a grammar specifying the way in which natural language constructs are created, e.g., sentences, paragraphs, etc., having subjects, verbs, adverbs, adjectives, prepositions, etc. The grammar in Carbonell is not a markup language grammar comprising the syntax rules of at least one markup language, as recited in claim 1. To the contrary, Carbonell is concerned with checking the vocabulary and grammar of the natural language (e.g., English) of the document to make sure that they conform to the CSL specification. Such checks are performed on all text of the document including sentences, headings, list items, captions, call-outs in graphics, and information in tables (see column 19, lines 21-44). The result is a "translatable text" that may be translated from the source language (e.g., English) to a foreign language (e.g., Spanish)(see Figure 6 which outlines the operation of the LE).

Therefore, when Carbonell describes the vocabulary checker and the grammar checker in the sections cited by the Office Action, these checkers are only checking the vocabulary and grammar with regard to the natural language of the document, i.e. the language used if the document text is read and spoken by a user. These checks are not checks of the grammar of a markup language to ensure that a markup language document is using the correct syntax for the markup language used to generate the markup language document. Thus, while Carbonell may teach providing a user interface for editing a document and performing grammar checks of the document, Carbonell does not teach, or

suggest, providing grammatical assistance to a user based on a markup language grammar inferred from current content of said markup language document, wherein the markup language grammar comprises syntax rules of the at least one markup language used to generate the current content of the markup language document.

Moreover, even if the Examiner were somehow to equate the natural language grammar checks described in Carbonell with the markup language grammar of claimed 1, there still is no teaching or suggestion in Carbonell to infer such a grammar from the current content of the document in Carbonell. None of the sections of Carbonell teach or suggest to infer grammar from the document. The Office Action alleges that inferring a grammar from a document is taught by Carbonell at column 20, lines 30-37 which reads as follows:

When a non-CSL word is identified, the author has the following options: she can select an alternative and substitute it for the word in the document, or she can enter a new item and substitute it for the word in the document. Typically, the author selects one of the synonyms to replace the non-CSL item. If the author should decide to skip the problem, the lack of resolution would result in failure of the text to be approved a CSL.

This section of Carbonell is basically teaching a vocabulary checking function in which, if a word is not recognized as being within the CSL, the author can choose a synonym to replace it. There is nothing in this section, or any other section, of Carbonell that teaches to infer a grammar from a document. Moreover, there is nothing in this, or any other, section of Carbonell to teach inferring a markup language grammar from a current content of a markup language document as recited in claim 1.

To the contrary, in Carbonell the focus is on ensuring that the document is correct by performing natural language grammar checks prior to the document text being translated. Thus, in Carbonell, the grammar is pre-established in the CSL and the check is made against this pre-established grammar using the grammar checker of the LE to ensure that a translatable text is generated prior to translation. The system of Carbonell would not operate properly, and incorrectly translated text would be generated, if Carbonell were to attempt to infer grammar rules from the document.

Thus, for the reasons set forth above, Applicant respectfully submits that Carbonell does not teach each and every feature of independent claims 1 and 14 as is required under 35 U.S.C. § 102(b). Similarly, independent claim 13 recites an XML document and a markup language grammar that comprises XML syntax rules inferred from the current content of the XML document. Thus, for similar reasons, the features of claim 13 are not taught, or even suggested, by the Carbonell reference. At least by virtue of their dependency on claims 1 and 14, respectively, Carbonell does not teach each and every feature of dependent claims 2-3, 7-8, 12, 15-16, and 19-20. Accordingly, Applicant respectfully requests withdrawal of the rejection of claims 1-3, 7-8, 12-16, and 19-20 under 35 U.S.C. § 102(b).

In addition to the above, dependent claims 2-3, 7-8, 12, and 15-16 recite additional features, which when taken alone or in combination with the features of the independent claims from which they depend, are not taught or suggested by Carbonell. For example, with regard to claim 2, Carbonell does not teach or suggest that a markup language grammar comprises at least one of definition rules for creating new types of markup language document elements and attributes, and declaration rules for enabling elements and attributes with specific names and types to appear in the markup language document. To the contrary, the grammar taught in Carbonell is a natural language grammar and is not directed to any markup language grammar, let alone one that includes such definition or declaration rules.

Regarding claim 3, as discussed above, Carbonell does not teach or suggest inferring a markup language grammar from a markup language document, let alone doing so automatically and loading the markup language grammar into a memory of a computer. The Office Action again points to column 20, lines 30-37 (reproduced above) as allegedly teaching the features of claim 3. It can be seen that there is nothing in this section, or any other section, of Carbonell that describes automatically inferring a grammar from a document and loading it into a memory. To the contrary, the cited section is concerned with a vocabulary check and potentially replacing a word with a synonym. It has nothing to do with inferring a grammar from a document, let alone a markup language grammar from current content of a markup language document.

Regarding claim 7, Carbonell makes no mention of a real markup language grammar file, let alone an inferred markup language grammar being associated with a markup language grammar element appearing in the markup language document for which an associated real markup language grammar defined in a markup language grammar file is not available. The Office Action points to the sections of Carbonell addressed above as well as column 29, lines 1-9 which reads as follows:

There are three main steps in generation:

1. Lexical Selection.

For each concept in the interlingua, the most appropriate lexical item must be selected.

2. F-Structure Creation.

A syntactic functional structure which determines the grammatical structure of the target utterance must be produced from the Interlingua Text frames.

3. Syntactic Generation.

The syntactic functional structure is processed by the generation grammar to produce a target language sentence.

This section of Carbonell is merely describing the translation of Interlingua text frames into a target language, i.e. the foreign language. There is nothing in this or any other section of Carbonell that teaches anything regarding markup language grammars, markup language grammar files, or an inferred markup language grammar being associated with a markup language grammar element appearing in the markup language document for which an associated real markup language grammar defined in a markup language grammar file is not available. Other than operating on documents and simply using the similar term “grammar,” Carbonell has nothing to do with the presently claimed invention.

Similar arguments as set forth above apply to corresponding features of claims 8, 15 and 16.

With regard to claim 12, nowhere in Carbonell is there any teaching, or even suggestion, regarding constructing a document object model comprising a set of markup language grammar elements, determining, for each markup language grammar element, whether the markup language grammar element is associated with an available real markup language grammar and if not, inferring one or more markup language grammar

rules associated with the markup language grammar element, and incorporating the inferred one or more markup language grammar rules into the inferred markup language grammar. The Office Action does not really address any of these features other than simply to point to the same sections of Carbonell discussed above which have been shown to clearly not teach or even suggest anything remotely similar to such features. Again, other than operating on documents and merely using the term “grammar,” Carbonell has nothing to do with the invention as recited in the present claims.

Thus, in addition to their dependency, Applicant respectfully submits that claims 2-3, 7-8, 12, and 15-16 are allowable over Carbonell based on the specific features recited in these claims. Accordingly, Applicant respectfully requests withdrawal of the rejection of dependent claims 2-3, 7-8, 12, and 15-16 under 35 U.S.C. § 102(b).

### **III. Rejection under 35 U.S.C. § 103(a)**

The Office Action rejects claims 4-6, 9-11, and 17-18 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Carbonell “in view of Applicant’s choice of moving functions from one location to another to achieve the same purpose as originally intended.” This rejection is moot with regard to canceled claims 4 and 17 and is respectfully traversed with regard to the remaining claims.

First, it is unclear what the basis of the rejection is since the statement of the rejection seems to state that these claims are being rejected based upon a combination of Carbonell with Applicant’s own invention. Such a basis is clearly improper since one cannot reject claims based on the Applicant’s own invention set forth in the application. Thus, it will be assumed that the Examiner intended to reject the claims based on Carbonell only. As such, each of the claims rejected under 35 U.S.C. § 103(a) is a dependent claim which incorporates the features of their respective independent claim which has been shown above to not be taught or suggested by Carbonell. Therefore, these claims are allowable over Carbonell at least for the reasons set forth above with regard to the respective independent claims. Moreover, Carbonell does not teach or suggest the specific features recited in any of these dependent claims.

For example, with regard to claim 5, Carbonell does not teach to dynamically update a markup language grammar based on real-time edits to a markup language document. To the contrary, the natural language grammar of Carbonell is static and is not updated in any way, let alone updated dynamically based on real-time edits to a markup language document.

The Office Action alleges that these features are taught by Carbonell at column 28, lines 1-15 and 26-32 which read as follows: .

In other words, when dealing with multiple languages the linguistic structure is no longer a universal invariant that transfers across all applications (as it was for pure English language parsers), but rather is another dimension of parameterization and extensibility. However, semantic information can remain invariant across languages (though, of course, not across domains). Therefore, it is crucial to keep semantic knowledge sources separate from syntactic ones, so that if new linguistic information is added it will apply across all semantic domains, and if new semantic information is added it will apply to all relevant languages. The universal parser attempts to accomplish this factoring without making major concessions to either run-time efficiency or semantic accuracy.

...

Further, the mapping rules are both language- and domain-dependent, and a different set of mapping rules is created for each language/domain combination. Syntactic grammars, domain knowledge bases, and mapping rules are written in a highly abstract, human-readable manner. This organization makes them easy to extend or modify, but possibly machine-inefficient for a run-time parser.

This section of Carbonell merely teaches that semantic knowledge and syntactic knowledge should be kept separate since one may be invariant and the other not. Moreover, this section of Carbonell teaches that mapping rules are language and domain dependent and that syntactic grammars are written in a highly abstract manner such that they may be extended or modified. However, there is nothing in this, or any other section, of Carbonell that addresses the specific features recited in claim 5, i.e. the markup language grammar being dynamically updated based on real-time edits to the markup language document. Merely teaching that a natural language grammar may be specified in an extensible manner does not teach or suggest the specific features of claim 5.



With regard to claim 10, Carbonell does not teach or suggest a real markup language grammar file being an XML schema definition (XSD) file or a data type definition (DTD) file. The Office Action merely alleges that simply because Carbonell teaches SGML that these features would have been obvious. However, this does not address the fact that the grammar described in Carbonell is a natural language grammar of a language, such as English, and is not a markup language grammar. Thus, there is no reason to specify the grammar in Carbonell as a XSD or DTD file since it has nothing to do with a markup language grammar. Therefore, contrary to the allegations raised by the Office Action, Carbonell does not in fact teach or suggest the features of claim 10.

With regard to claims 11 and 18, Carbonell does not teach or suggest that a markup language document is associated with a plurality of markup language grammars, each one of said plurality of markup language grammars being associated with a namespace and, for a particular markup language grammar element associated with a particular namespace, assistance related to the particular markup language grammar element is provided to the user based on the markup language grammar associated with the particular namespace. Once again, the Office Action merely alleges that because SGML is taught by Carbonell that somehow this teaches all of the features of claims 11 and 18 recited above. Merely teaching a single type of markup language, i.e. SGML, does not teach or even suggest that a markup language document is associated with a plurality of markup language grammars, let alone each markup language grammar being associated with a namespace or providing assistance related to a particular markup language grammar element based on a markup language grammar associated with a particular namespace. There simply is no correlation between the general teaching of SGML and the features of claims 11 and 18. Thus, Applicant respectfully submits that Carbonell does not teach or suggest the features of claims 11 and 18.

In view of the above Applicant respectfully submits that Carbonell does not teach or suggest the features of claims 5-6, 9-11, and 18. Accordingly, Applicant respectfully requests withdrawal of the rejection of claims 5-6, 9-11, and 18 under 35 U.S.C. § 103(a).

**IV. Newly Added Claims**

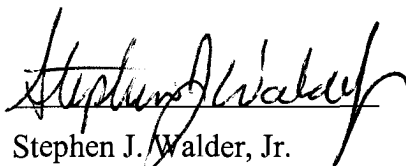
Claims 21-22 are added by this Response. Claims 21-22 correspond to similar original claims 5 and 6 but are written as computer readable medium claims dependent from claim 14. Thus, no new matter has been added by the addition of claims 21-22 and support for the addition of these claims may be found at least in originally filed claims 5 and 6. Prompt and favorable consideration of claims 21-22 is respectfully requested.

**V. Conclusion**

It is respectfully urged that the subject application is now in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

Respectfully submitted,

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Stephen J. Walder, Jr.

Reg. No. 41,534

**WALDER INTELLECTUAL PROPERTY LAW, P.C.**

P.O. Box 832745

Richardson, TX 75083

(214) 722-6419

ATTORNEY FOR APPLICANT